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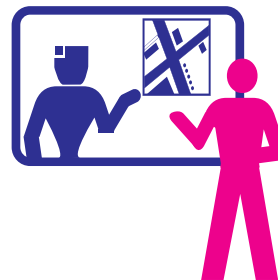
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*THE MAIN OBJECTIVE OF THE REFLECT PROJECT IS TO DEVELOP PERVASIVE-ADAPTIVE ENVIRONMENTS. THE NEW GENERATION OF SMART SYSTEMS USING REFLECTIVE TECHNOLOGY SHOULD UNDERSTAND USERS' EMOTIONS, NEEDS, INTENTIONS AND SOCIAL SITUATION AS WELL AS PROVIDE APPROPRIATE REACTION IN A DISCRETE AND PERSONALIZED MANNER.*

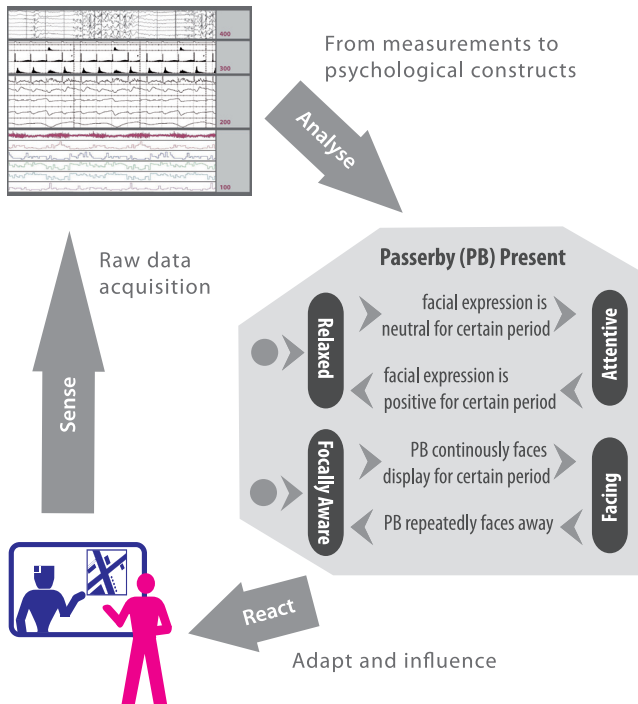
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**REFLECTIVE DISPLAYS**  
**Make your advertising**  
**feel for you**



# Person Aware Advertising Displays

In public advertising, digital displays are able to adapt the content to the time of day and current events. However, the content cannot be tailored to the needs of the actual audience in front of the display. Viewers may have received an ad just before, or have missed its beginning. They may be interested in more detailed information or be engaged in other activities. Reflective displays are aware of their audience. Their task is to adapt the content to the emotional, cognitive and physical state of passers-by as well as their environment. They are aware of what is taking place in front of the display, how many persons have made contact, who is attentive and who entertained, whose attention still can be grabbed, and what has to be done to keep the viewers involved.



## TECHNOLOGY

The system that alters the displayed ad content is based on the principles of reflection and context awareness. The reflective display monitors, diagnoses and responds to the affective, mental and bodily states of the viewer in a closed-loop fashion. The biocybernetic loop consists of:

- **Sensing:** The viewer's position, facial expression, gaze direction, and presence in front of the display are sensed through cameras.
- **Analysing:** The viewer's attention, emotion and interests are inferred from the sensed data.
- **Reacting:** The display alters the displayed ad content in order to react to and direct the user's interest, and emotions by adding additional effects or including content from its direct environment.

In a closed loop, the system re-examines the effects of its (re-)actions and further fine tunes its behaviour. The ultimate goal is to ensure that the advertisement stays entertaining and lively in the memory of its viewers without being annoying.

Reflective technology controls multiple sensor and actuator devices in an environment based on the distributed OSGi platform (Open Services Gateway initiative), which deploys services and components in Java featuring seamless pervasive adaptation during system operation.